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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/534,939	03/24/2000	Thomas H. DiStefano	Tessera 3.3-008 CIP DIV C.	3218
530	7590	10/17/2003	EXAMINER	
LERNER, DAVID, LITTENBERG, KRUMHOLZ & MENTLIK 600 SOUTH AVENUE WEST WESTFIELD, NJ 07090			GRAYBILL, DAVID E	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 10/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/534,939

Applicant(s)

DISTEFANO ET AL.

Examiner

David E Graybill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6-19-3 has been entered.

Claims 1-6 and 8-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 6, 15, 16, 19, 22-25 and 27 the term "frangible" is a vague relative term of degree for which the disclosure provides no clear standard for measuring the degree, or it is not apparent if the degree is limited by the disclosure, and one of ordinary skill in the art, in view of the prior art and the status of the art, would not otherwise be reasonably apprised of the scope of the term.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 4-6, 8, 9 and 15-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Angelucci (4380042).

At column 4, line 13 to column 6, line 41, Angelucci teaches the following:

A semiconductor chip mounting component comprising:

(a) a support structure adapted for engagement with a semiconductor chip having a top surface, bottom surface, and a gap 26 extending through said support structure between said surfaces and defining first and second portions 20 and 28, respectively, of said support structure on opposite sides of the gap; (b) at least one elongated bus 38 disposed alongside said gap, on said second portion of said support structure; and (c) a plurality of electrically conductive leads 25, each said lead having a connection section extending across said gap, said connection section having a first end 23 disposed on the first portion of the support structure, and a second end 35 secured to said bus, and a frangible section [the entire lead]; said gap being open at said bottom surface of said support structure,

said leads being adapted to be bonded to contacts on a semiconductor chip 28 disposed beneath said bottom surface by breaking the frangible sections of said leads so as to disconnect said second ends of said leads from the bus and engage the leads with the contacts 30 of the chip, wherein the gap includes at least one elongated slot and wherein each of the leads extends across one of the elongated slots, wherein at least one of said elongated buses is disposed alongside each of said elongated slots, wherein the frangible sections of at least some of the leads are disposed adjacent the second ends of said leads [at 36], further comprising a polymeric reinforcement 20 in contact with each said lead, the component of claim 1, wherein the bus is comprised of a metallic material.

15. The component of claim 1, wherein the connection section and the frangible section of each lead are formed integrally with one another and with the associated bus, the connection section of each lead defining a pair of opposed horizontal edges, and the frangible lead section of each lead [at 36] having a pair of notches extending horizontally inwardly from said opposed edges to define a neck having a width less than the width between said edges, wherein each said lead has a second end securement section extending between the frangible section and the associated bus, wherein said gap includes a plurality of

elongated slots extending substantially around said first portion so that the slots are disposed between the first portion and the second portion, the component including a plurality of said elongated buses arranged on said second portion so that one such bus extends alongside each said slot, wherein said buses are connected to one another so that said buses cooperatively form a structure on said second portion substantially surrounding said first portion and said slots, wherein said slots are connected to one another to form a substantially continuous channel surrounding said first portion, said first portion being connected to said second portion only through said leads, whereby said first portion will be detached from said second portion upon breakage of said frangible sections, wherein said first and second portions of said support structure comprises a unitary support, wherein said unitary support comprises a layer of dielectric material, wherein said frangible section is mechanically weaker than said first and second ends of said connection section, whereby said frangible section is disconnectable from one of said first and second ends upon application of a force to said connection section, wherein said frangible section is disposed overlying said gap between said first and second ends, wherein said frangible section is disposed overlying said gap between said first and second ends,

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wherein said frangible sections overlies said gap, at least one of said first and second ends of each said connection section is inherently displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, further comprising terminals 23 disposed on said first portion of support structure, at least some of said leads having their first ends connected to said terminals.

A semiconductor chip mounting component comprising: (a) a support structure adapted for engagement with a semiconductor chip having a top surface, a bottom surface, and a gap extending through said support structure between said surfaces and defining first and second portions of said support structure on opposite sides of said gap; (b) a plurality of electrically conductive leads, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the first portion of the support structure, a second end secured to said bus, and a frangible section, wherein said frangible section is disconnectable from one side of said first and second ends upon application of a force to said connection section; (c) said gap being open at said bottom surface of said support structure, said leads being adapted to be bonded to contacts on a semiconductor chip

disposed beneath said bottom surface by breaking the frangible section of said leads so as to disconnect said second ends of said leads from said bus and engage said leads with the contacts of the chips, said frangible section is mechanically weaker than said first and second ends of said connection section; (d) terminals disposed on said first portion of support structure, wherein at least some of said leads having their first ends connected to said terminals.

To further clarify the teaching that the entire lead is frangible, this is an inherent property of the leads because the leads can be readily or easily broken. To this end, it is noted that at page 3, lines 3-35, applicant acknowledges that the leads "must be extremely fine structures . . . susceptible to damage and deformation." Moreover, as cited, applicant admits that Angelucci (4380042) teaches that "A frangible section may be provided at the juncture between the innermost end of each lead and the inner element." Indeed, at column 5, lines 44-55, Angelucci teaches that a lead is inherently frangible at this juncture even without a reduced cross section.

To further clarify the teaching that the support structure is adapted for engagement with a semiconductor chip, it is noted that this is a statement of intended use of the product which does not result in a structural difference between the claimed

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product and the product of Angelucci. Further, because the product of Angellucci has the same structure as the claimed product, it is inherently capable of being used for the intended use, and the statement of intended use does not patentably distinguish the claimed product from the product of Angellucci. Similarly, the manner in which a product operates is not germane to the issue of patentability of the product; *Ex parte Wikdahl* 10 USPQ 2d 1546, 1548 (BPAI 1989); *Ex parte McCullough* 7 USPQ 2d 1889, 1891 (BPAI 1988); *In re Finsterwalder* 168 USPQ 530 (CCPA 1971); *In re Casey* 152 USPQ 235, 238 (CCPA 1967). Also, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."; *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

To further clarify the teaching that the first and second portions of said support structure comprises a unitary support, it is noted that the first and second portions comprise a

support characterized by a totality of related parts, and an entity that is a complex or systematic whole.

To further clarify terminals, Angelucci teaches parts 23 that form the ends of the leads.

Claims 1, 4-6, 8-14 and 17-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Hayward (4801999).

At column 6, lines 6-53; and column 7, lines 23-45, Hayward teaches the following:

A semiconductor chip mounting component comprising:  
(a) a support structure adapted for engagement with a semiconductor chip having a top surface, bottom surface, and a gap [illustrated but not labeled] extending through said support structure between said surfaces and defining first and second portions, 160 and 122, respectively, of said support structure on opposite sides of the gap; (b) at least one elongated bus 122 disposed alongside said gap, on said second portion of said support structure; and (c) a plurality of electrically conductive leads 128, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the first portion of the support structure, and a second end secured to said bus, and a frangible section [the entire lead]; said gap being open at said bottom surface of said support structure, said leads being adapted to

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be bonded to contacts on a semiconductor chip 160 disposed beneath said bottom surface by breaking the frangible sections of said leads so as to disconnect said second ends of said leads from the bus and engage the leads with the contacts 30 of the chip, wherein the gap includes at least one elongated slot and wherein each of the leads extends across one of the elongated slots, wherein at least one of said elongated buses is disposed alongside each of said elongated slots, wherein the frangible sections of at least some of the leads are disposed adjacent the second ends of said leads [at 36], further comprising a polymeric reinforcement 30 in contact [at least indirectly] with each said lead, wherein the bus is comprised of a metallic material, wherein the support structure includes a dielectric layer 30, said dielectric layer including first and second portions 32 and 36, respectively, said first portion of said support structure including said first portion of said dielectric layer, said second portion of said support structure including said second portion of said dielectric layer, wherein the dielectric layer is flexible.

12. The component of claim 10, wherein the support structure further includes a compliant layer 30, wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said

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bottom surface of said support structure, wherein the leads are disposed on [in close proximity with, and on the side of] the dielectric layer, wherein said gap includes a plurality of elongated slots extending substantially around said first portion so that the slots are disposed between the first portion and the second portion, the component including a plurality of said elongated buses arranged on said second portion so that one such bus extends alongside each said slot, wherein said buses are connected to one another so that said buses cooperatively form a structure on said second portion substantially surrounding said first portion and said slots, wherein said slots are connected to one another to form a substantially continuous channel surrounding said first portion, said first portion being connected to said second portion only through said leads, whereby said first portion will be detached from said second portion upon breakage of said frangible sections, wherein said first and second portions of said support structure comprises a unitary support, wherein said unitary support comprises a layer of dielectric material, wherein said frangible section is mechanically weaker than said first and second ends of said connection section, whereby said frangible section is inherently disconnectable from one of said first and second ends upon application of a force to said connection section, wherein

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said frangible section is disposed overlying said gap between said first and second ends, wherein said frangible section is disposed overlying said gap between said first and second ends, wherein said frangible sections overlie said gap, at least one of said first and second ends of each said connection section is inherently displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, further comprising terminals 164 disposed on said first portion of support structure, at least some of said leads having their first ends connected to said terminals.

A semiconductor chip mounting component comprising: (a) a support structure adapted for engagement with a semiconductor chip having a top surface, a bottom surface, and a gap extending through said support structure between said surfaces and defining first and second portions of said support structure on opposite sides of said gap; (b) a plurality of electrically conductive leads, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the first portion of the support structure, a second end secured to said bus, and a frangible section, wherein said frangible section is disconnectable from one side of said first and second ends upon application of a

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force to said connection section; (c) said gap being open at said bottom surface of said support structure, said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible section of said leads so as to disconnect said second ends of said leads from said bus and engage said leads with the contacts of the chips, said frangible section is mechanically weaker than said first and second ends of said connection section; (d) terminals disposed on said first portion of support structure, wherein at least some of said leads having their first ends connected to said terminals.

To further clarify the teaching of a frangible section, this is an inherent property of the leads because the leads can be readily or easily broken.

To further clarify the teaching that the support structure is adapted for engagement with a semiconductor chip, it is noted that this is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of Hayward. Further, because the product of Hayward has the same structure as the claimed product, it is inherently capable of being used for the intended use, and the statement of intended use does not patentably distinguish the claimed product from the product of Hayward.

To further clarify wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure, it is noted that the figures of Hayward are not limited to an absolute frame of reference or otherwise limited to a particular orientation, and it is inherent that there is a frame of reference wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure.

To further clarify the teaching of the limitation, "whereby said first portion will be detached from said second portion upon breakage of said frangible elements," the first portion is attached to the second portion by the leads having the inherently frangible elements, and it is inherent that the first portion will be detached from the second portion upon breakage of the frangible elements.

To further clarify the teaching that the first and second portions of said support structure comprises a unitary support, it is noted that the first and second portions comprise a support characterized by a totality of related parts, and an entity that is a complex or systematic whole.

Claims 1-6 and 8-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Nelson (5459634).

At column 4, line 64 to column 6, line 7, Nelson teaches the following:

A semiconductor chip mounting component comprising:  
(a) a support structure 18 adapted for engagement with a semiconductor chip having a top surface, bottom surface, and a gap 32 extending through said support structure between said surfaces and defining first and second portions [illustrated but not labeled] of said support structure on opposite sides of the gap; (b) at least one elongated bus 36 disposed alongside said gap, on said second portion of said support structure; and (c) a plurality of electrically conductive leads 28, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the first portion of the support structure, and a second end secured to said bus, and a frangible section [the entire lead]; said gap being open at said bottom surface of said support structure, said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible sections of said leads so as to disconnect said second ends of said leads from the bus and engage the leads with the contacts of the chip, wherein the gap

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includes a plurality of holes, wherein at least one of the leads extends across each of the holes, wherein the gap includes at least one elongated slot and wherein each of the leads extends across one of the elongated slots, wherein at least one of said elongated buses is disposed alongside each of said elongated slots, wherein the frangible sections of at least some of the leads are disposed adjacent the second ends of said leads, further comprising a polymeric reinforcement 50 in contact with each said lead, wherein the bus is comprised of a metallic material, wherein the support structure includes a dielectric layer 50, said dielectric layer including first and second portions, said first portion of said support structure including said first portion of said dielectric layer, said second portion of said support structure including said second portion of said dielectric layer, wherein the dielectric layer is inherently flexible, wherein the support structure further includes an inherently compliant layer 50, wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure, wherein the leads are disposed on the dielectric layer, wherein the connection section and the frangible section of each lead are formed integrally with one another and with the associated bus, the connection

section of each lead defining a pair of opposed horizontal edges, and the frangible lead section of each lead [at 36] having a pair of notches extending horizontally inwardly from said opposed edges to define a neck having a width less than the width between said edges, wherein each said lead has a second end securement section extending between the frangible section and the associated bus, wherein said gap includes a plurality of elongated slots extending substantially around said first portion so that the slots are disposed between the first portion and the second portion, the component including a plurality of said elongated buses arranged on said second portion so that one such bus extends alongside each said slot, wherein said buses are connected to one another so that said buses cooperatively form a structure on said second portion substantially surrounding said first portion and said slots, wherein said slots are connected to one another to form a substantially continuous channel surrounding said first portion, said first portion being connected to said second portion only through said leads, whereby said first portion will be detached from said second portion upon breakage of said frangible sections, wherein said first and second portions of said support structure comprises a unitary support, wherein said unitary support comprises a layer of dielectric material, wherein said frangible

section is mechanically weaker than said first and second ends of said connection section, whereby said frangible section is disconnectable from one of said first and second ends upon application of a force to said connection section, wherein said frangible section is disposed overlying said gap between said first and second ends, wherein said frangible section is disposed overlying said gap between said first and second ends, wherein said frangible sections overlie said gap, at least one of said first and second ends of each said connection section is inherently displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, further comprising terminals [lead 28 portions] disposed on said first portion of support structure, at least some of said leads having their first ends connected to said terminals.

A semiconductor chip mounting component comprising: (a) a support structure adapted for engagement with a semiconductor chip having a top surface, a bottom surface, and a gap extending through said support structure between said surfaces and defining first and second portions of said support structure on opposite sides of said gap; (b) a plurality of electrically conductive leads, each said lead having a connection section extending across said gap, said connection section having a

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first end disposed on the first portion of the support structure, a second end secured to said bus, and a frangible section, wherein said frangible section is disconnectable from one side of said first and second ends upon application of a force to said connection section; (c) said gap being open at said bottom surface of said support structure, said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible section of said leads so as to disconnect said second ends of said leads from said bus and engage said leads with the contacts of the chips, said frangible section is mechanically weaker than said first and second ends of said connection section; (d) terminals disposed on said first portion of support structure, wherein at least some of said leads having their first ends connected to said terminals.

To further clarify the teaching of a frangible section, this is an inherent property of the leads because the leads can be readily or easily broken.

To further clarify the teaching of said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible sections of said leads so as to disconnect said second ends of said leads from the bus and engage the leads with the contacts of the chip,

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it is noted that this is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of Nelson. Further, because the product of Nelson has the same structure as the claimed product, it is inherently capable of being used for the intended use, and the statement of intended use does not patentably distinguish the claimed product from the product of Nelson.

To further clarify wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure, it is noted that the figures of Nelson are not limited to an absolute frame of reference or otherwise limited to a particular orientation, and it is inherent that there is a frame of reference wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure.

To further clarify the teaching that at least one of said first and second ends of each said connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, it is inherent that at least one of said first and second ends of each said connection

section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact.

To further clarify the teaching of terminals, it is noted that lead 28 portions are inherently terminals because they are metallic connectors or pads to a circuit within a chip or package that permit electrical interconnection to external circuits.

Claims 1, 4, 6, 8, 10-14, 17 and 19-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of McCormick (5550406) and Nelson (5459634).

At column 12, line 12 to column 14, line 15, McCormick teaches the following:

A semiconductor chip mounting component comprising:

(a) a support structure adapted for engagement with a semiconductor chip having a top surface, bottom surface, and a gap 326 extending through said support structure between said surfaces and defining first and second portions 320 and 324, respectively, of said support structure on opposite sides of the gap; and (c) a plurality of electrically conductive leads 314, each said lead having a connection section 314f extending across said gap, said connection section having a first end 314c disposed on the first portion of the support structure, and a

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second end 314e secured to the second portion, and a frangible section [the entire lead]; said gap being open at said bottom surface of said support structure, said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible sections of said leads so as to disconnect said second ends of said leads from the bus and engage the leads with the contacts of the chip, wherein the gap includes at least one elongated slot and wherein each of the leads extends across one of the elongated slots, wherein the frangible sections of at least some of the leads are disposed adjacent the second ends of said leads.

8. The component of claim 1, further comprising a polymeric reinforcement 320 in contact with each said lead.

10. The component of claim 1, wherein the support structure includes a dielectric layer, said dielectric layer including first and second portions 320 and 324, respectively, said first portion of said support structure including said first portion of said dielectric layer, said second portion of said support structure including said second portion of said dielectric layer, wherein the dielectric layer is inherently flexible, wherein the support structure further includes an inherently compliant layer 320, wherein the support structure includes a dielectric layer defining said top surface of said support

structure and said compliant layer defining said bottom surface of said support structure, wherein the leads are disposed on the dielectric layer, wherein said gap includes a plurality of elongated slots extending substantially around said first portion so that the slots are disposed between the first portion and the second portion, wherein said slots are connected to one another to form a substantially continuous channel surrounding said first portion, said first portion being connected to said second portion only through said leads, whereby said first portion will be detached from said second portion upon breakage of said frangible sections, wherein said support structure comprises a unitary support, wherein said unitary support comprises a layer of dielectric material, wherein said frangible section is mechanically weaker than said first and second ends of said connection section, whereby said frangible section is inherently disconnectable from one of said first and second ends upon application of a force to said connection section, wherein said frangible section is disposed overlying said gap between said first and second ends, wherein said frangible section is disposed overlying said gap between said first and second ends, wherein said first and second ends of said connection section are joined together by said frangible section overlying said gap, at least one of said first and second ends of said

connection section is displaceable within said gap relative to said support structure upon severing said frangible section while leaving a remainder of said connection section intact, further comprising terminals 314c disposed on said first portion of support structure, at least some of said leads having their first ends connected to said terminals.

A semiconductor chip mounting component comprising: (a) a support structure adapted for engagement with a semiconductor chip having a top surface, a bottom surface, and a gap extending through said support structure between said surfaces and defining first and second portions of said support structure on opposite sides of said gap; (b) a plurality of electrically conductive leads, each said lead having a connection section extending across said gap, said connection section having a first end disposed on the first portion of the support structure, a second end secured to said bus, and a frangible section, wherein said frangible section is disconnectable from one side of said first and second ends upon application of a force to said connection section; (c) said gap being open at said bottom surface of said support structure, said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible section of said leads so as to disconnect said second ends of

said leads from said bus and engage said leads with the contacts of the chips, said frangible section is mechanically weaker than said first and second ends of said connection section; (d) terminals disposed on said first portion of support structure, wherein at least some of said leads having their first ends connected to said terminals.

To further clarify the teaching of said leads being adapted to be bonded to contacts on a semiconductor chip disposed beneath said bottom surface by breaking the frangible sections of said leads so as to disconnect said second ends of said leads from the bus and engage the leads with the contacts of the chip, it is noted that this is a statement of intended use of the product which does not result in a structural difference between the claimed product and the product of McCormick. Further, because the product of McCormick has the same structure as the claimed product, it is inherently capable of being used for the intended use, and the statement of intended use does not patentably distinguish the claimed product from the product of McCormick.

To further clarify wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure, it is noted that the figures of

McCormick are not limited to an absolute frame of reference or otherwise limited to a particular orientation, and it is inherent that there is a frame of reference wherein the support structure includes a dielectric layer defining said top surface of said support structure and said compliant layer defining said bottom surface of said support structure.

To further clarify the teaching of terminals, it is noted that connection sections 314c are inherently terminals because they are metallic connectors or pads to a circuit within a chip or package that permit electrical interconnection to external circuits.

To further clarify the teaching wherein said frangible section is mechanically weaker than said first and second ends of said connection section, it is noted that it is inherent that immediately before breaking, the frangible section is mechanically weaker than the first and second ends.

However, McCormick does not appear to explicitly teach at least one elongated bus disposed alongside said gap on said second portion of said support structure, the second end secured to the bus, and the component including a plurality of said elongated buses arranged on said second portion so that one such bus extends alongside each said slot.

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Nevertheless, as cited supra, Nelson teaches at least one elongated bus 38 disposed alongside a gap on a second portion of a support structure a second end secured to the bus, and the component including a plurality of said elongated buses arranged on said second portion so that one such bus extends alongside each said slot. In addition, it would have been obvious to combine the product of Nelson with the product of McCormick because it would facilitate electrical connection.

Applicant's amendment and remarks filed 6-19-3 are adequately addressed in the rejections supra and previously in the record.

***Any telephone inquiry of a general nature or relating to the status (MPEP 203.08) of this application or proceeding should be directed to Group 2800 Customer Service whose telephone number is 703-306-3329.***

Any telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (703) 308-2947. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.

The fax phone number for group 2800 is (703) 872-9306.



David E. Graybill  
Primary Examiner  
Art Unit 2827

D.G.  
12-Oct-03